

SAFETY SUPPLEMENT

TECHNICAL MANUAL

**AEROSPACE EMERGENCY RESCUE
AND MISHAP RESPONSE INFORMATION
(EMERGENCY SERVICES)**

THIS PUBLICATION SUPPLEMENTS TO 00-105E-9 REVISION 8, DATED 30 SEPTEMBER 2002, LOCATED AT WEB SITE:<http://www.robins.af.mil/logistics/LGEDA/Documents/to00-105e-9.htm>.

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**COMMANDERS ARE RESPONSIBLE FOR BRINGING THIS SUPPLEMENT
TO THE ATTENTION OF ALL AFFECTED AIR FORCE PERSONNEL.**

PUBLISHED UNDER AUTHORITY OF THE SECRETARY OF THE AIR FORCE

18 February 2004**1. PURPOSE.**

This supplement provides instructions for update of TO 00-105E-9 Revision 8, dated 30 September 2002, affecting Chapter 20 USN Fighter Aircraft. This supplement adds new and information regarding the F/A-18A/B/C/D/E/F aircraft procedures.

2. INSTRUCTIONS.

- a. This information, if it applies to your operation, can be downloaded and printed from this web site by the end user. Use the most current Adobe Reader for this function. This software is free and can be downloaded from Adobe.com at their web site. PDF files should be downloaded with the Reader running on your PC to reduce download time.
- b. This supplement to Chapter 20 adds information based on newly researched source data information regarding this fighter aircraft. The new file update should be added to Chapter 20 in TO 00-105E-9 Revision 8. The end user should save this file and print the affected pages, if applicable to the user's operation. File a copy of this Safety Supplement with the main Technical Order according to current regulations.

NOTE

The operational user file is the whole or selected printed pages from the web site placed in a binder used for local, transient operations or both. This information should also be included in mobility boxes where applicable. If your unit or a part of your unit is serving elsewhere, they should be informed of this Safety Supplement and how to obtain it. See TO 00-5-2 paragraphs 1-1.4, 1-1.4.1, and 1-1.6 for Local Reproduction of TOs and Digital Media guidance.

THE END

AIRCRAFT PAINT SCHEME FOR A/F-18A/B/C/D

A/F-18



AIRCRAFT PAINT SCHEME FOR A/F-18E/F

A/F-18



AIRCRAFT DIMENSIONS

EFFECTIVITY: F/A-18A/B/C/D

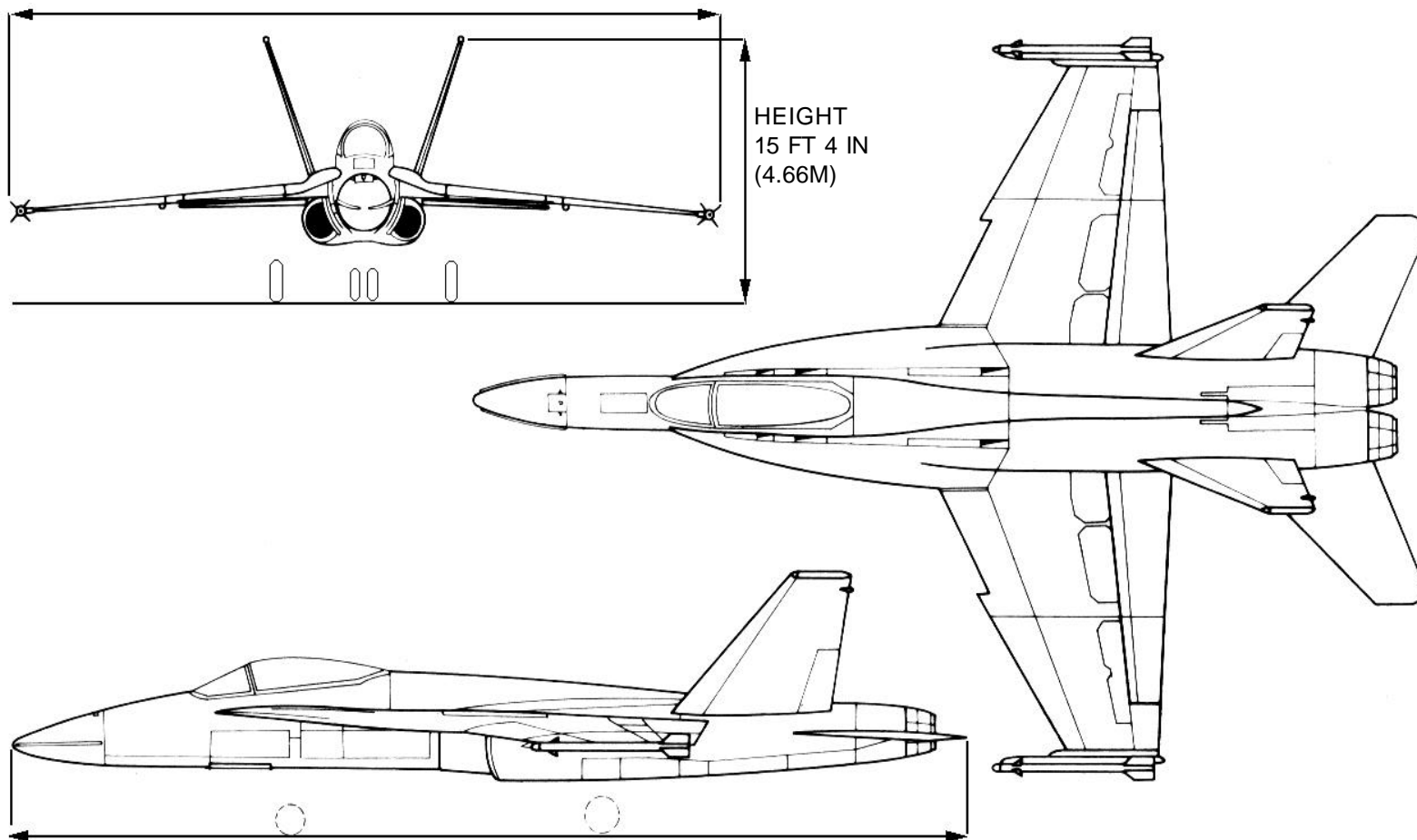
NOTE:

The F/A-18 A and C are single seat models while the F/A-18B and D are two seat models.

WING SPAN
37FT 6 IN
(11.43 M)

HEIGHT
15 FT 4 IN
(4.66M)

LENGTH
56 FT
(17.07M)



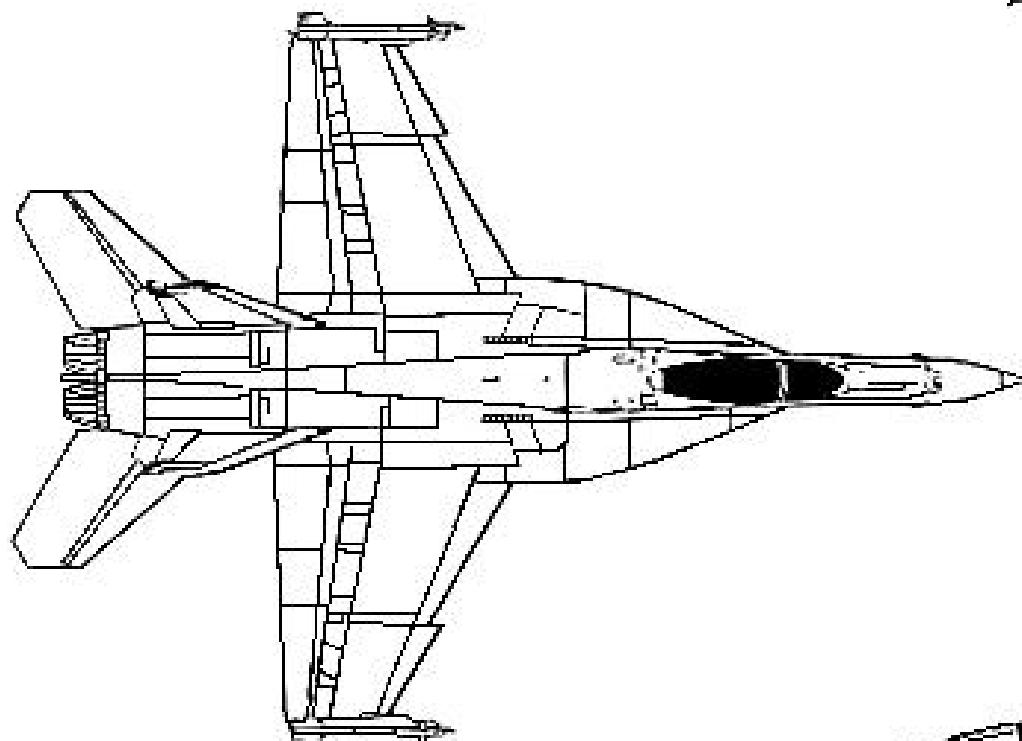
A/F-18

AIRCRAFT DIMENSIONS-Continued

EFFECTIVITY: F/A-18E/F

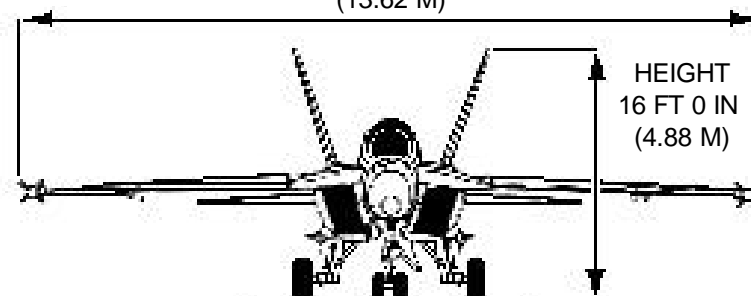
NOTE:

The F/A-18E is single seat model while the F/A-18F is a two seat model.

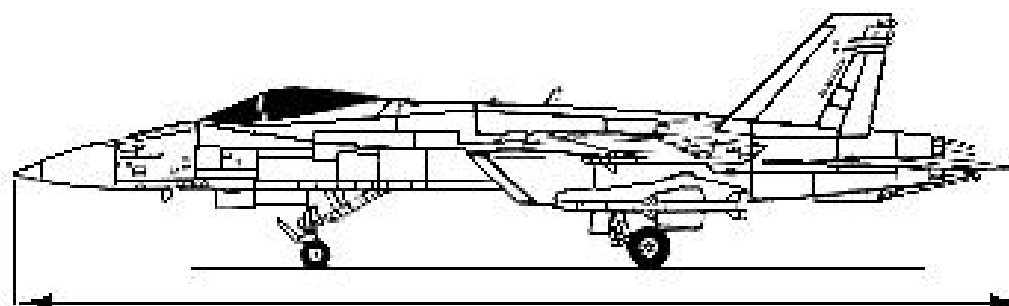
A/F-18

WING SPAN
44FT 8.5 IN
(13.62 M)

HEIGHT
16 FT 0 IN
(4.88 M)

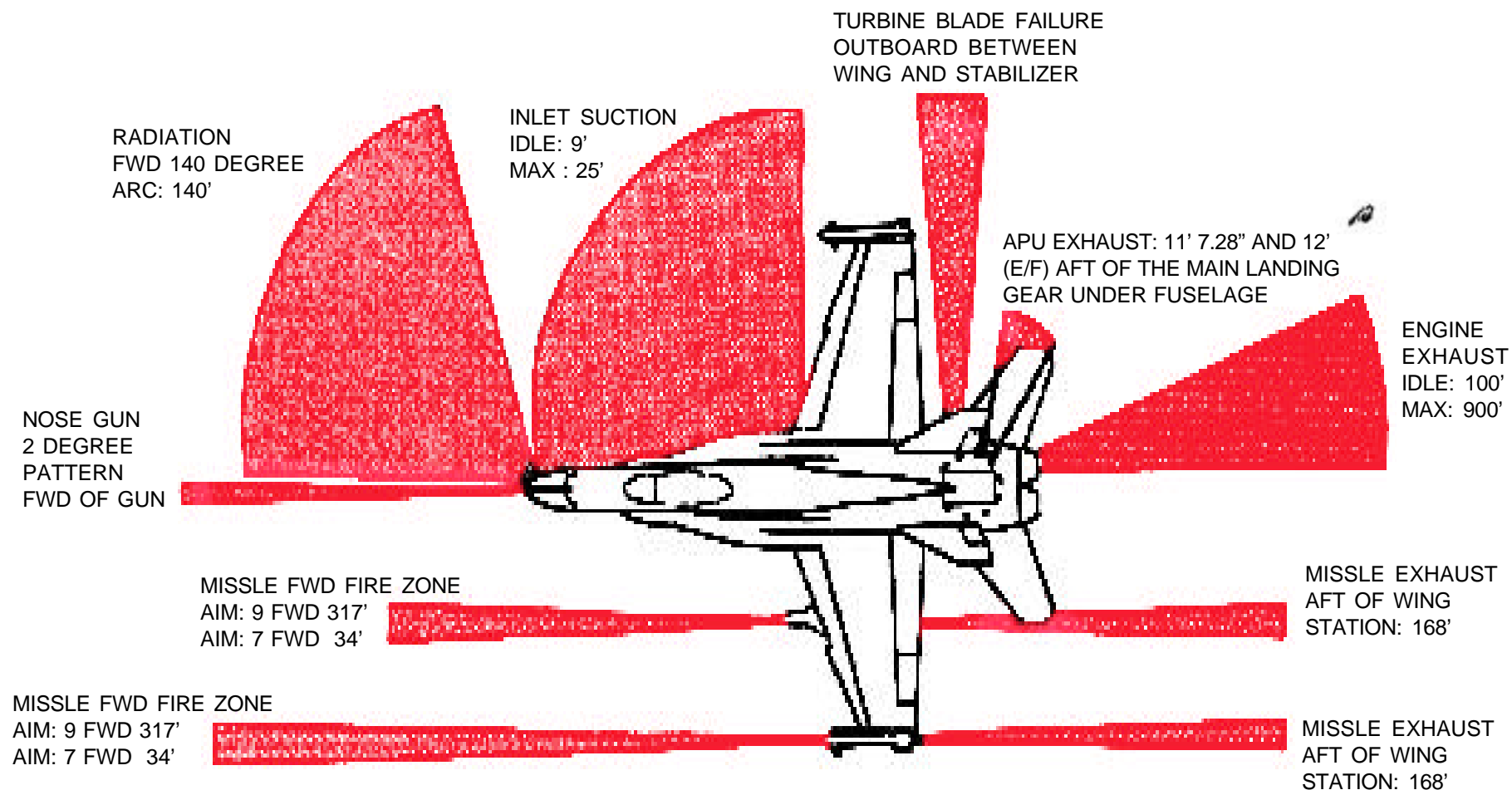


LENGTH
60 FT 3.5 IN
(18.38 M)



AIRCRAFT HAZARDS

A/F-18



AIRCRAFT HAZARDS-Continued

A/F-18

NOTE:

In normal wheels down landing, ground wheels down switches safety the armament systems.

WARNING

Aircraft has chaff and flares installed. Pylons have ejector cartridges installed.

NOTE:

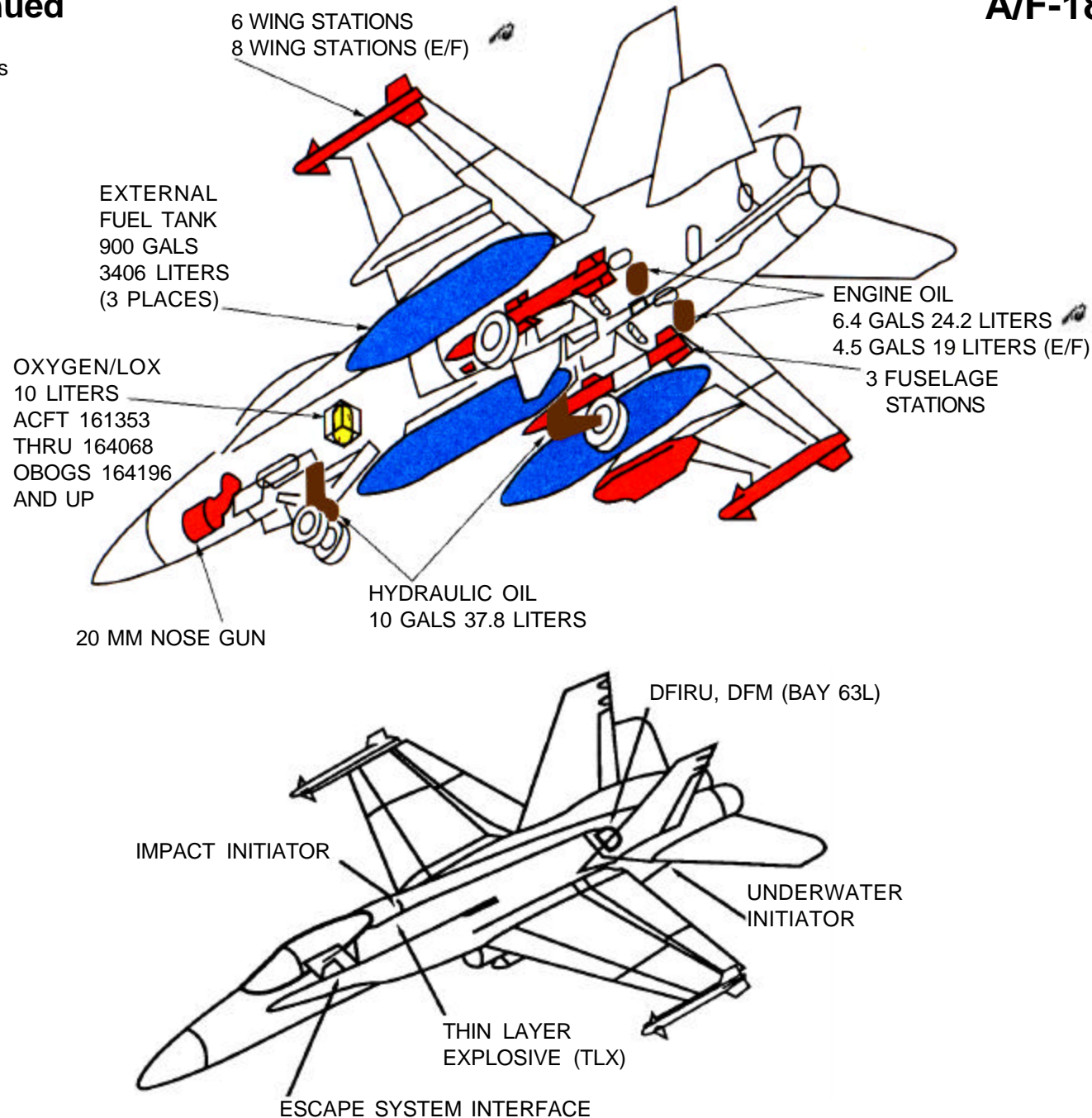
On aircraft 164196 and up, including E/F version, Deployable Flight Incident Recorder Set (DFIRS). The DFIRS comprises the following components:

- (1) TLX thin-layered transfer system
- (2) Impact initiator and cartridge
- (3) Underwater initiator and cartridge
- (4) Severable door
- (5) Front mount and cartridge
- (6) Deployable flight incident recorder

NOTE:

DFIRS deploys under the following conditions:

- (1) Ejection: DFIRS is deployed immediately upon initiation of ejection.
- (2) Crash (without ejection): DFIRS is deployed when the impact initiator senses 20 G's (longitudinal).
- (3) Water submersion (without ejection): DFIRS is deployed when aircraft is submerged is greater than 15 feet of water without sufficient longitudinal impact force for crash initiation (approximately 100 kts).



AIRCRAFT ARMAMENT

ARMAMENT - F/A18A/B/C/D

One M61A1/A2 Vulcan 20mm cannon

EXTERNAL PAYLOAD:

AIM 9 Sidewinder, AIM 7 Sparrow, AIM-120 AMRAAM, Harpoon, Harm, SLAM, SLAM-ER, Maverick missiles; Joint Stand-Off Weapon (JSOW); Joint Direct Attack Munition (JDAM); various general purpose bombs, mines and rockets.

ARMAMENT - F/A-18E/F

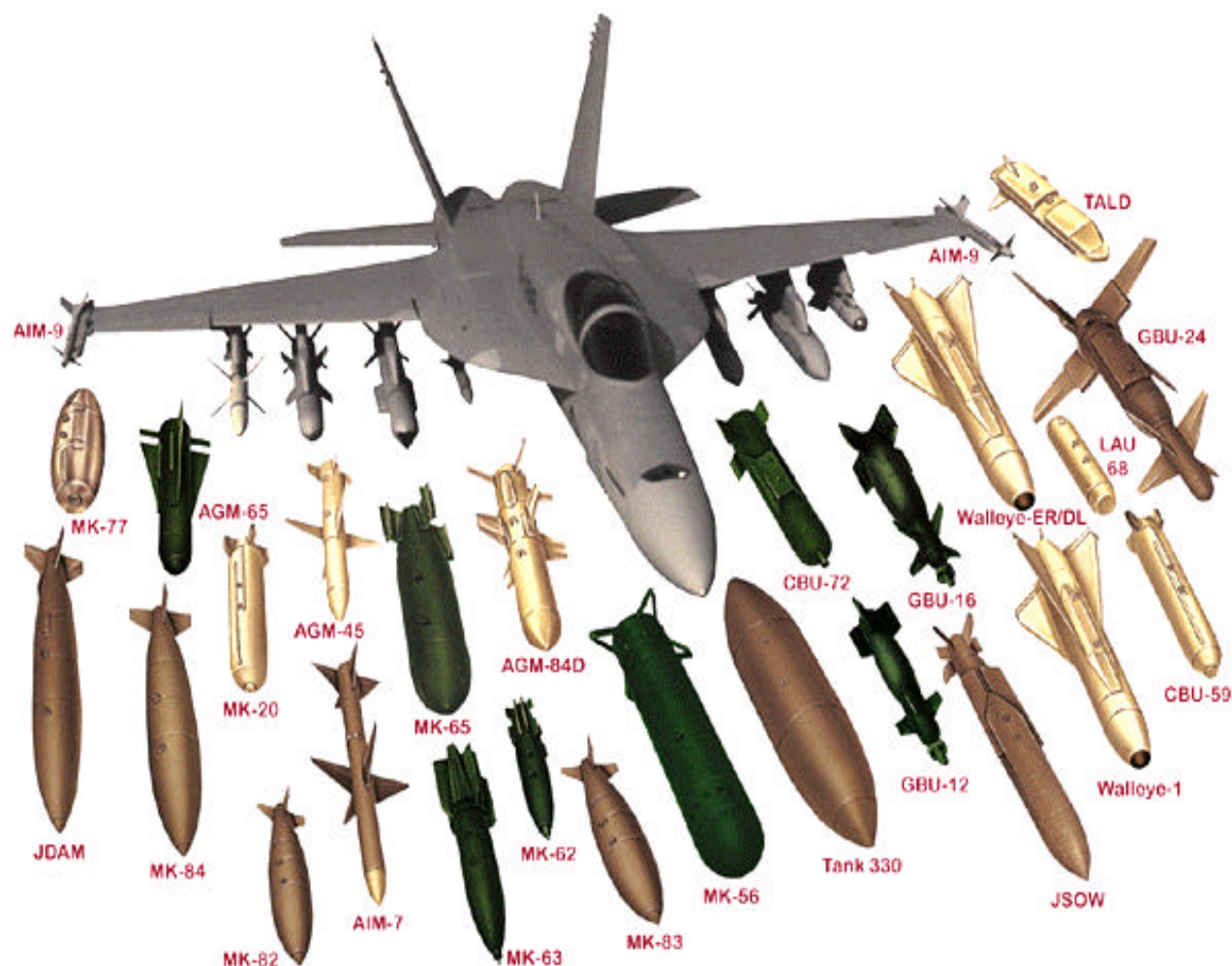
NOTE:

The F/A-18E/F models has additional weapon stations in comparison to the F/A-18C/D totalling 11.

One M61A1/A2 Vulcan 20mm cannon

EXTERNAL PAYLOAD:

AIM Sidewinder, AIM-9X (projected), AIM 7 Sparrow, AIM-120 AMRAAM, Harpoon, Harm, SLAM, SLAM-ER (projected), Maverick missiles; Joint Stand-Off Weapon JSOW); Joint Direct Attack Munition (JDAM); Data Link Pod; Paveway Laser Guided Bomb; various general purpose bombs, mines and rockets.








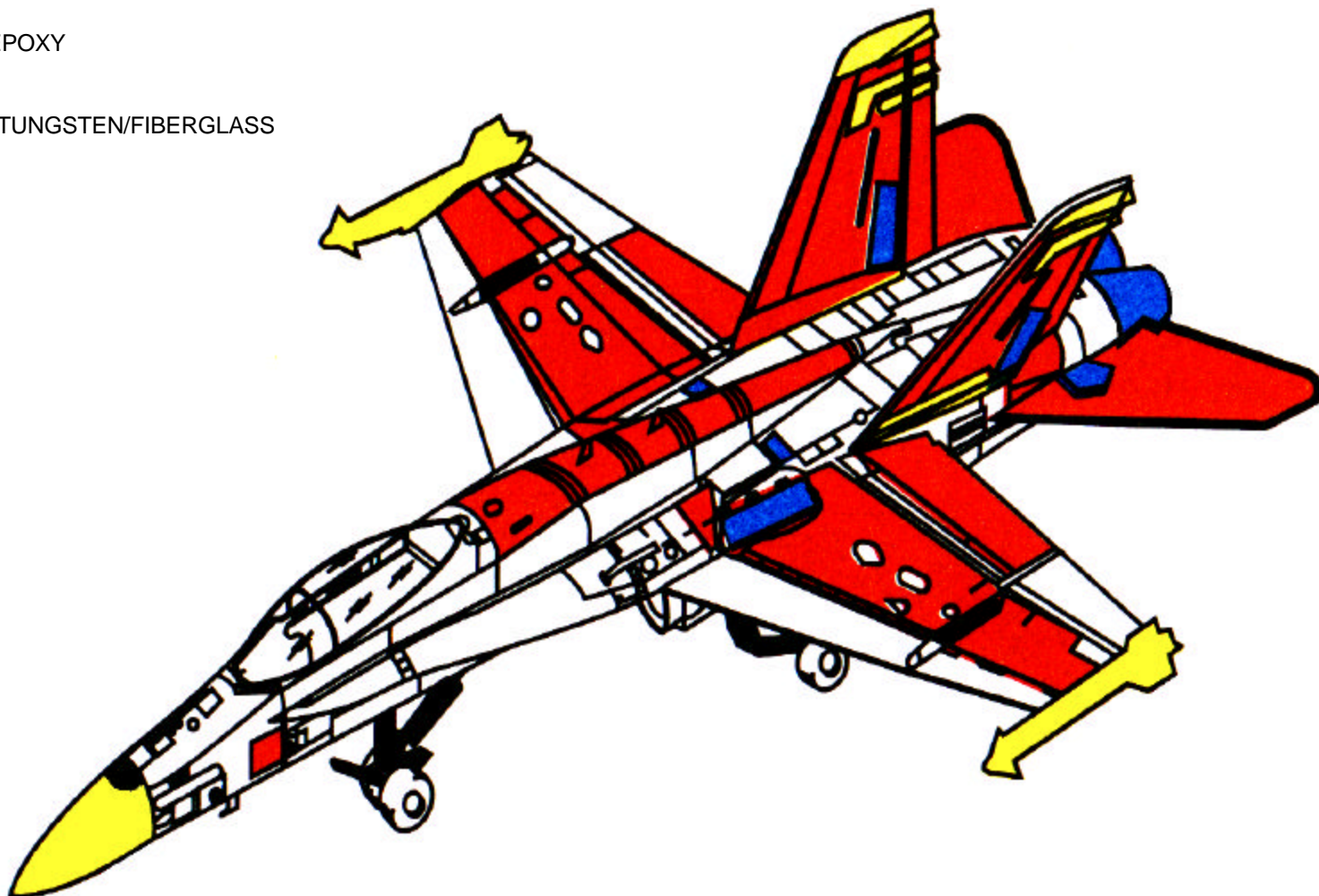
A/F-18

AIRFRAME MATERIALS

A/F-18

LEGEND

	ALUMINUM
	STEEL
	TITANIUM
	GRAPHITE EPOXY
	OTHER BORON/TUNGSTEN/FIBERGLASS



SPECIAL TOOLS/EQUIPMENT

Power Rescue Saw
 Crash Ax Fire Drill II
 3/8 Inch Drive Socket Wrench
 1/4 Inch Drive Socket Wrench
 7/32 Inch Key Socket Headscrew

AIRCRAFT ENTRY-ALL MODELS**WARNING**

After flight, before personnel can safely touch the windshield and canopy, high voltage static discharged by using anti-static gloves.

1. NORMAL ENTRY

- a. Canopy is electronically operated. To open canopy, press center button to release door 9 and expose the control switch. Hold switch in UP position until canopy is fully open.

2. MANUAL ENTRY

- a. Canopy can be opened by inserting 3/8-inch drive socket wrench or breaker bar into manual open socket. Rotate counterclockwise 35 turns or 112 turns on 2 seat models to fully open canopy.

3. EMERGENCY ENTRY**WARNING**

If fuel or other flammable fluids are present, it is not advisable to jettison canopy because rocket motors, when fired, can ignite these fluids.

- a. Canopy may be jettisoned from either side of aircraft. Open door 5L or 5R and remove handle. Move away from aircraft the full length of canopy jettison cable and yank hard. Canopy will impact approximately 30 feet behind aircraft.

NOTE:

On aircraft 162826 and up, canopy can only be jettisoned from inside the cockpit.

4. CUT-IN/FORCED ENTRY

- a. Canopy is acrylic plastic and may be cut with power rescue saw or ax. To avoid canopy fracture spray with CO2 to make brittle and easy to break. Cut along canopy frame, all four sides.

INTERNAL FUEL CAPACITY

FOR F/A-18A/C:

1589 GALS
 (6013 LITERS)

FOR F/A-18B/D:

1487 GALS
 (5627 LITERS)

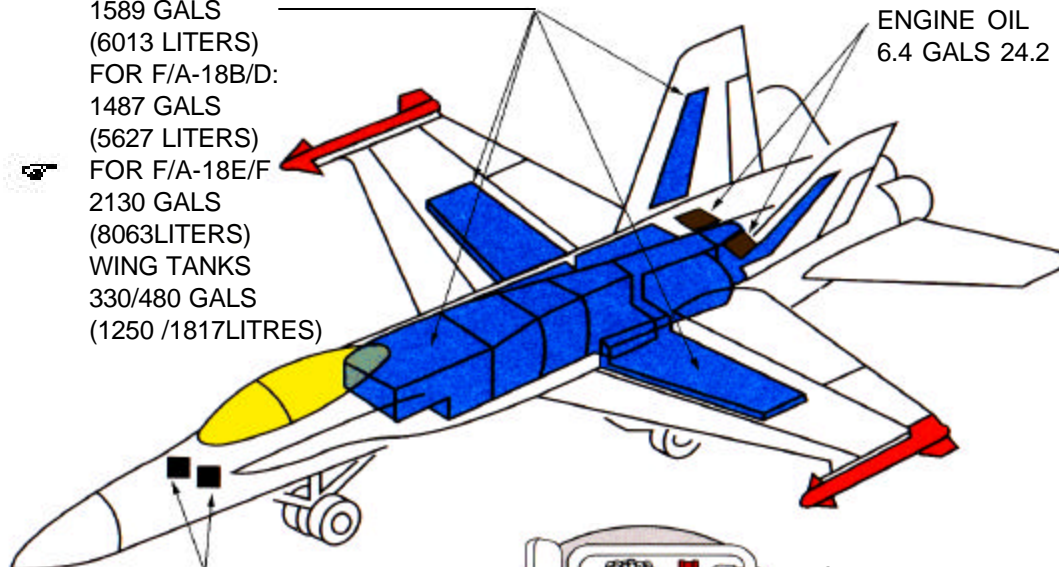
FOR F/A-18E/F:

2130 GALS
 (8063 LITERS)

WING TANKS
 330/480 GALS
 (1250 /1817 LITERS)

ENGINE OIL

6.4 GALS 24.2 LITERS



BATTERIES
 2-24V 5AMP
 NICKEL CADMIUM

3a
 DOOR
 5L OR 5R

3a
 CANOPY
 JETTISON
 HANDLE

1a
 DOOR 9

2a
 MANUAL OPEN
 SOCKET

1a
 CANOPY
 CONTROL
 SWITCH

2a
 3/8 INCH
 DRIVE
 SOCKET
 WRECH

A/F-18

CANOPY SAFETY

1. CANOPY SAFETY FOR F/A-18A/B/C/D

WARNING

During flight of the F-18 aircraft, a high voltage (100,000 volts) static electrical charge may build up and be stored in the windshield and canopy. After flight, static charge buildup must be discharged using anti-static gloves (PN SG-200-93-y-F150), before personnel can safely touch the windshield and canopy.

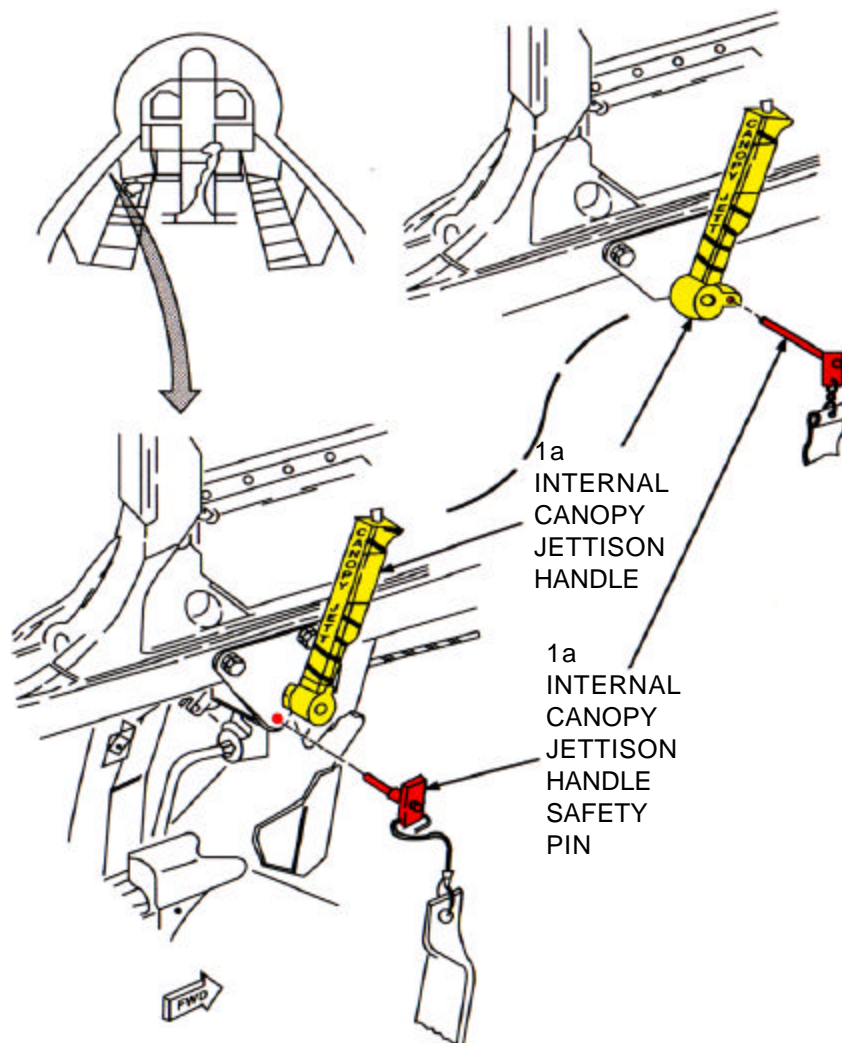
WARNING

Canopy has dual rocket motors mounted on canopy frame. With canopy open, rescue personnel may be seriously injured if rocket motors are ignited.

- a. To safety canopy unlatch thruster and canopy rocket motors, insert safety pin, if available, into canopy jettison handle. Use safety pin for applicable model.

NOTE:

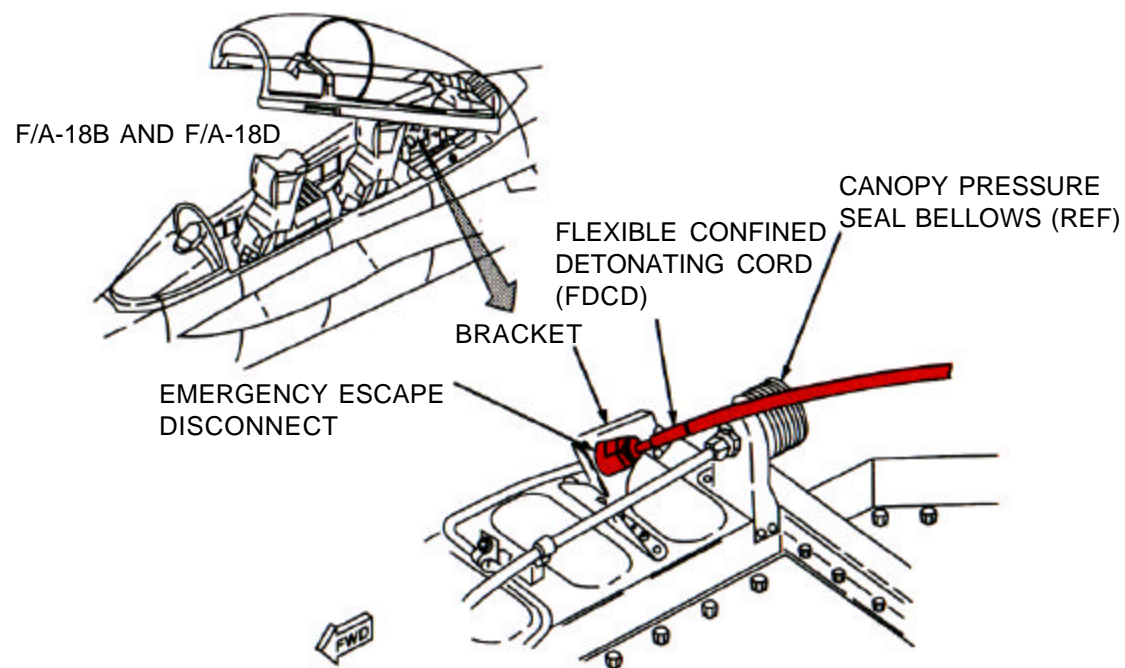
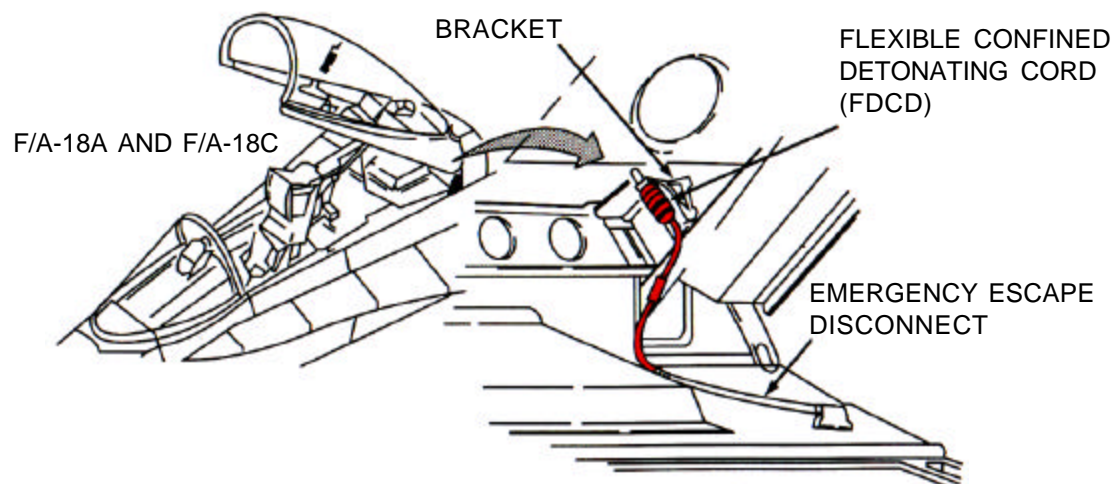
Insert safety pin with canopy jettison handle in forward position.



CANOPY SAFETY-Continued

A/F-18

1. CANOPY SAFETY FOR F/A-18A/B/C/D-Continued
- b. Grasp quick disconnect hose, located at canopy behind ejection seat, and pull down to disconnect the emergency escape disconnect. This disarms the canopy thruster and rocket motors. Use quick disconnect for applicable model.



ENGINE AND APU SHUTDOWN

A/F-18

1. ENGINE SHUTDOWN-NORMAL AND EMERGENCY

NOTE:

The engines may be shut down by using the throttles or fuel shutoff valve controls.

- a. Raise finger lifts and move throttles, located on the left cockpit console, fully aft to OFF position.
- b. Lift guard and press the left and right fire warning lights, located on the upper forward instrument panel. A time delay of approximately 30 seconds or less (with engines at MIL through IDLE) may be expected before engine shutdown occurs.

NOTE:

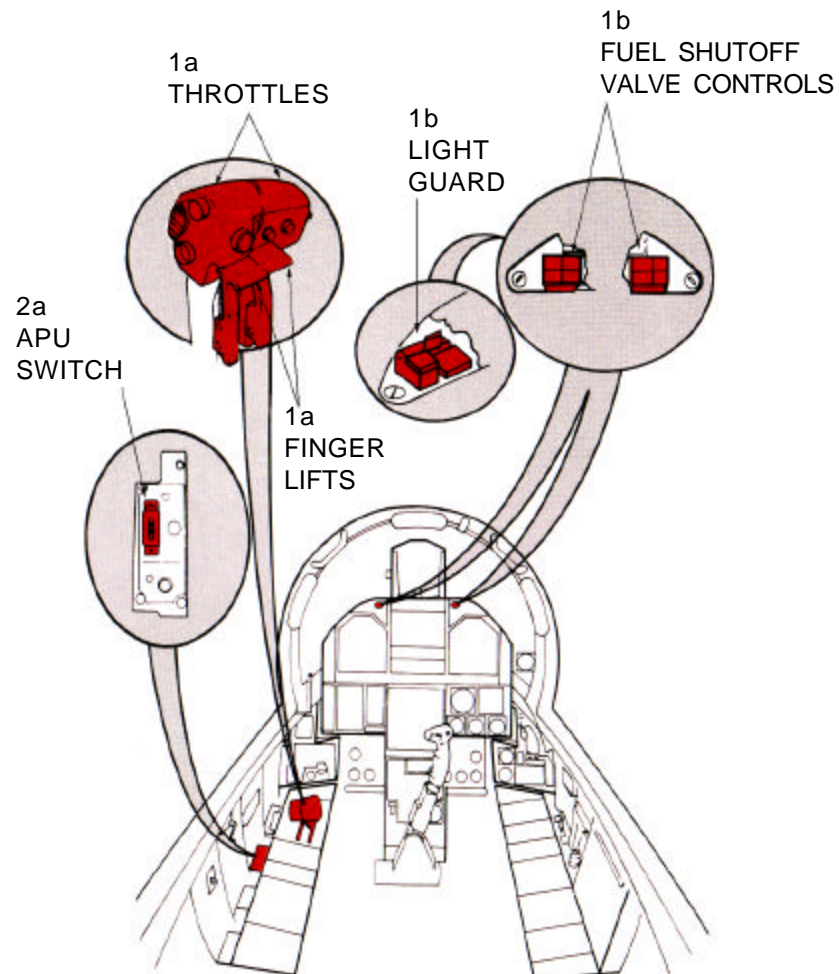
On aircraft 160775 thru 160782 (F/A-18A, Cum 1 thru 7; F/A-18B, Cum 1), fuel shutoff valve controls are located aft of throttles. Pull controls to FULL UP position.

2. APU SHUTDOWN-NORMAL AND EMERGENCY

- a. Auxilliary Power Unit (APU) may be shut down by placing APU switch, located on the left cockpit console aft of the engine throttles, in OFF position.

WARNING

Puddling of fuel under aircraft indicates presence of residual fuel in engine bay. With APU running, this can cause fire or explosion. Ensure APU shutdown prior to crewmember rescue.



ENGINE AND APU EXTERNAL SHUTDOWN

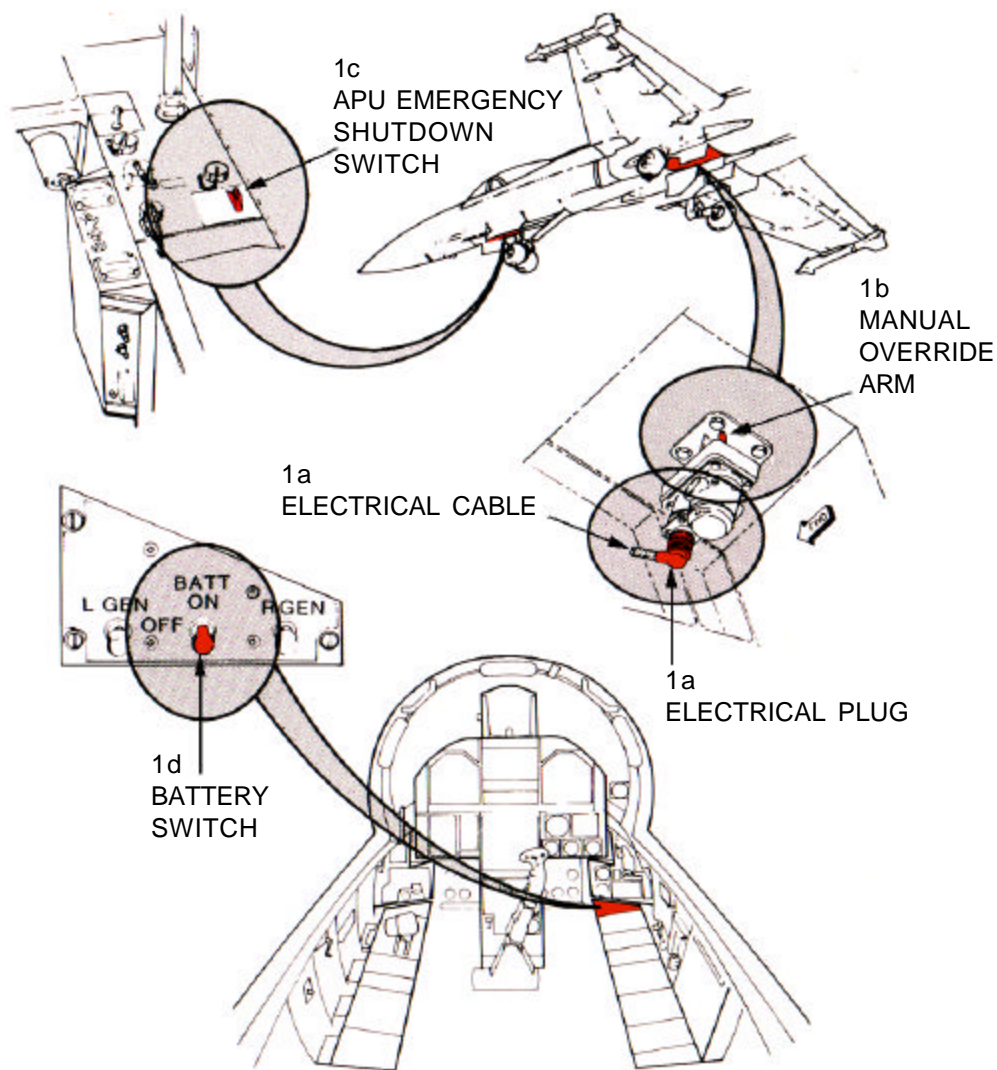
1. ENGINE AND APU EXTERNAL SHUTDOWN

- Disconnect electrical plug. If plug can not be disconnected, cut electrical cable with insulated cutters.
- Turn manual override arm clockwise to CLOSED position.

NOTE:

On aircraft 160775 thru 160782 (F/A-18A, Cum 1 thru 7; F/A-18B, Cum 1), cut fuel shutoff valve linkage then turn shutoff valve arm forward.

- Place APU emergency shutdown switch (LH side of nose wheelwell) down in shutdown position.
- Place battery switch in OFF position to semi-isolate the two batteries.
- To completely isolate the aircraft batteries, open external doors 10R and 10L (4 latches each), using a 1/4 inch drive socket wrench. Disconnect 4 battery bayonet couplings (2 per battery), turn couplings counterclockwise and pull.



MARTIN-BAKER SJU-5/A, 6/A AND SJU-17(V)1/A, 2/A EJECTION SEATS

A/F-18

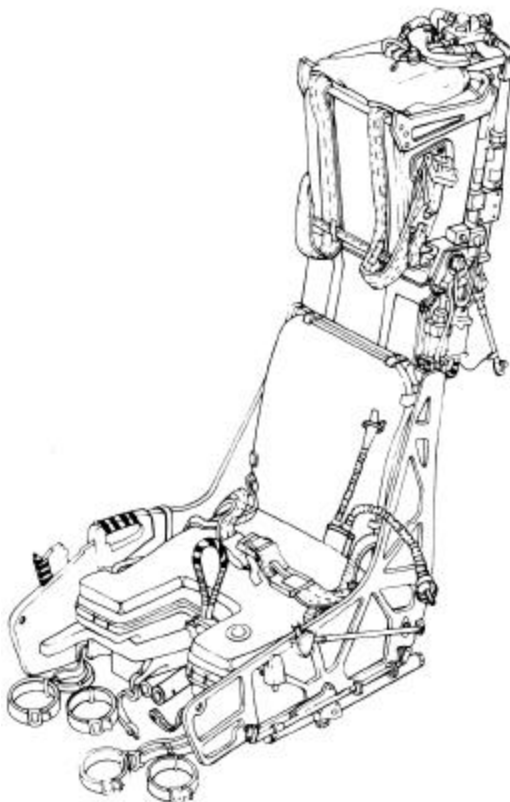
1. GENERAL INFORMATION

The F/A-18 uses two types of Martin-Baker ejection seats, the SJU-5/A, 6/A and SJU-17(V) 1/A, 2/A. Both types are a rocket assisted ejection seat that provides support and necessary environmental equipment for crewmembers during flight, and a means of fast, safe escape during emergency flight conditions. The seat assembly incorporates features permitting seat ejection at ground level, at zero airspeed as well as during emergency flight conditions.

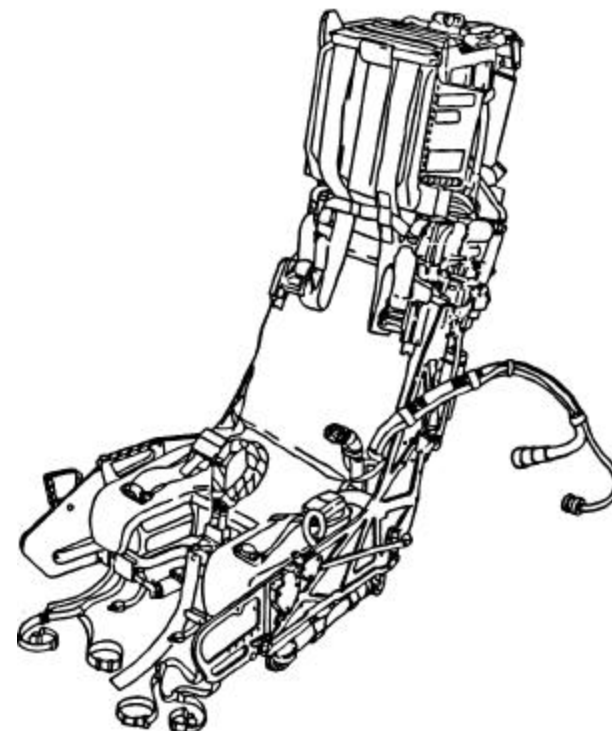
The basic structure of the seat consists of a main beam assembly, built to withstand high G-loads, support all of the components, and form the main framework for the seat.

The basic components of the seat assembly include a catapult, gas powered inertia reel, rocket motor, seat bucket assembly, drogue gun, parachute, guillotine, and survival equipment.

This ejection seat presents definite hazards which may cause fatal injuries to uninformed and careless personnel. Firefighting/rescue personnel must become thoroughly familiar with the locations and the safetying of the seat components in both normal and emergency conditions.



SJU-5/A, 6/A



SJU-17(V)1/A, 2/A

EJECTION SEAT SAFETYING

A/F-18

1. EJECTION SEAT SAFETYING-NORMAL AND EMERGENCY-SJU-5/A, 6/A MODEL

NOTE:

Immediately upon gaining access to the aircraft cockpit, if time permits and no hazardous conditions exist, proceed with seat safetying procedures.

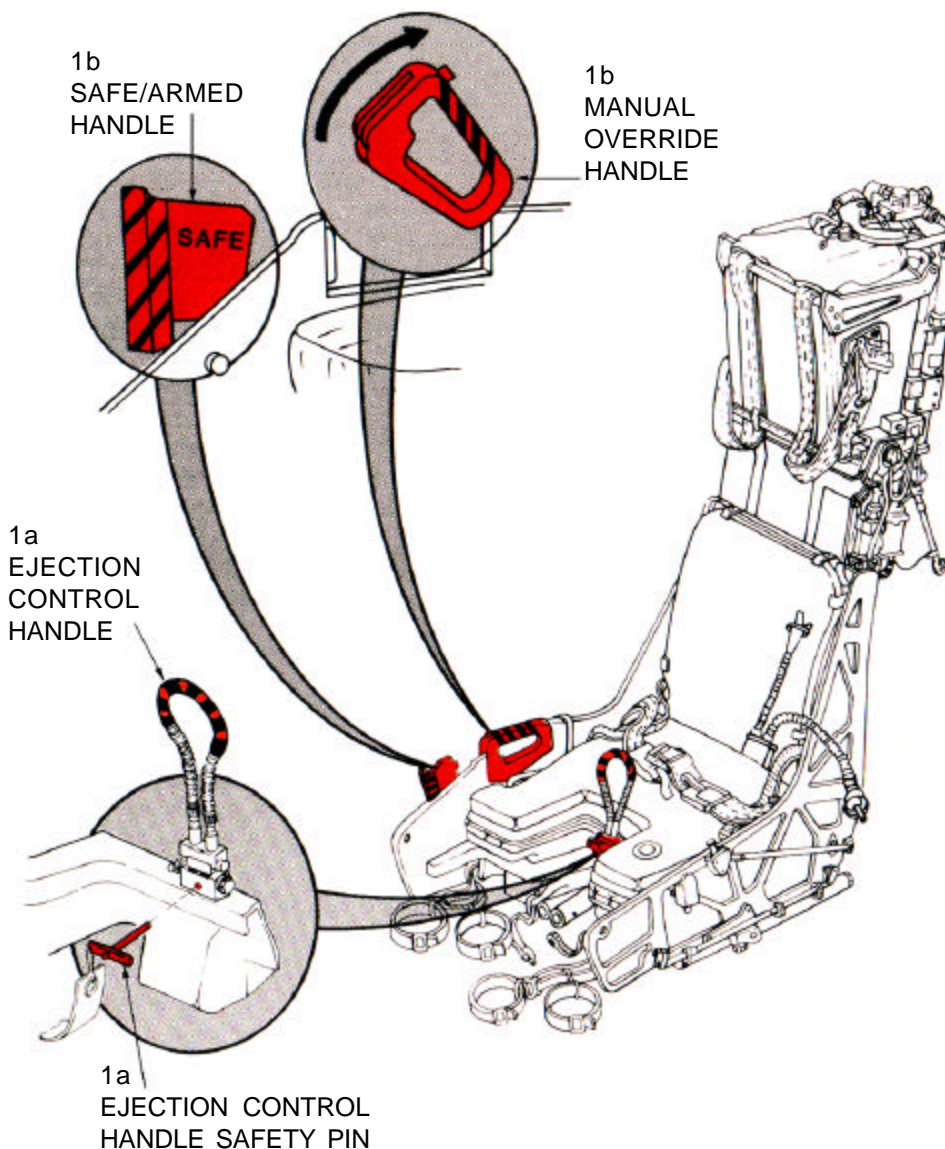
WARNING

If ejection control handle is not fully seated, safety pin cannot be installed and safe/armed handle cannot be rotated to the fully locked position. An unsafe seat exists if the entire word "SAFE" is not visible on the safe/armed handle. If ejection seat is not in a safe condition, initiation may occur if ejection control handle is pulled. Proper procedures for resetting handle must be followed.

- a. Insert safety pin into ejection control handle if handle is in first detent (stowed) position. If ejection control handle is not in stowed position, return handle to first detent (stowed position) by pressing handle into its housing and inserting safety pin.
- b. Press button on top of manual override handle and rotate handle UP and AFT. The safe/armed handle will simultaneously rotate up and the entire word "SAFE" should be visible.

WARNING

In multi-seat aircraft, all ejection seats must be safetyed.



EJECTION SEAT SAFETYING-Continued

2. EJECTION SEAT SAFETYING-NORMAL AND EMERGENCY-SJU-(V)1/A, 2/A MODEL

NOTE:

Immediately upon gaining access to the aircraft cockpit, if time permits and no hazardous conditions exist, proceed with seat safetying procedures.

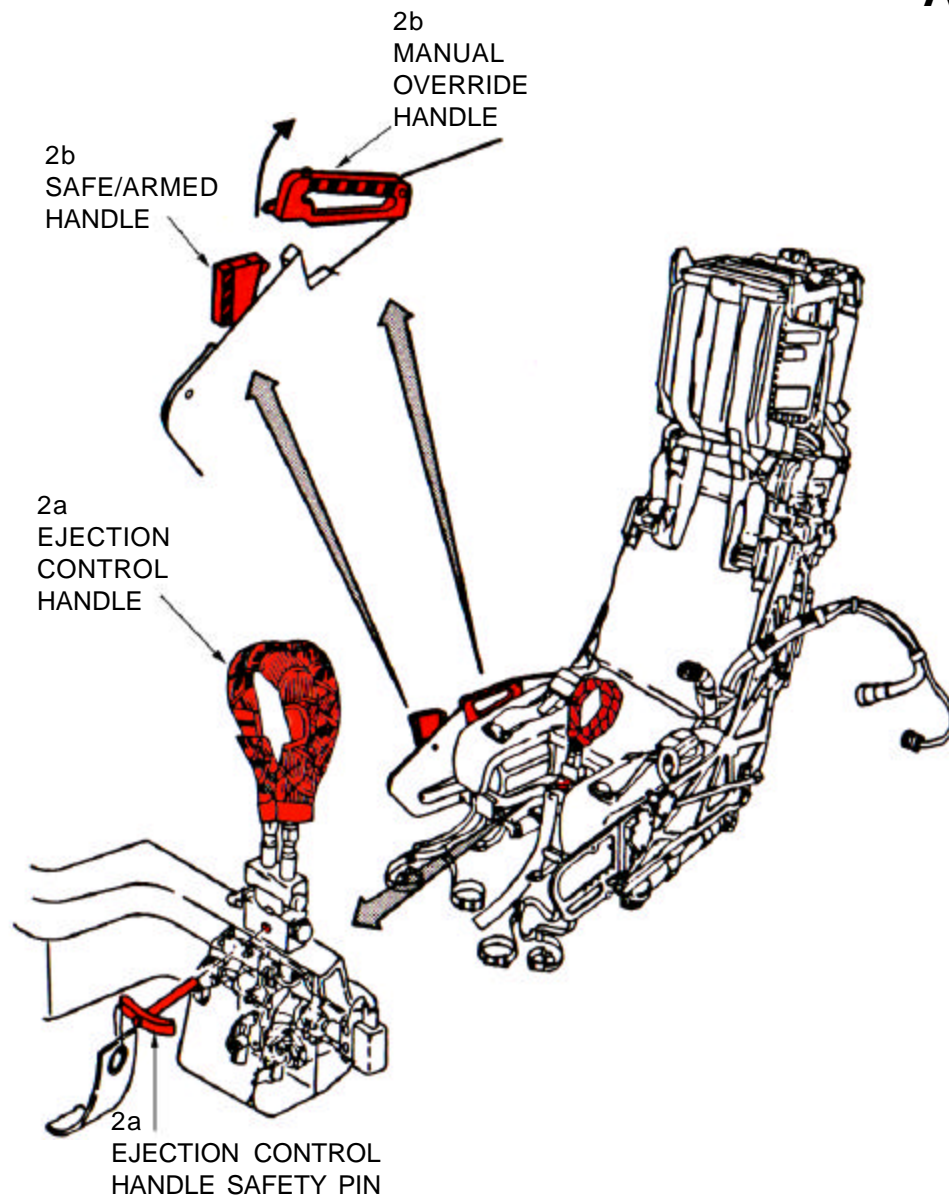
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WARNING

In multi-seat aircraft, all ejection seats must be safetyed.



AIRCREW EXTRACTION

A/F-18

1. AIRCREW EXTRACTION

NOTE:

The crewmember is attached to the seat by the use of an integrated harness and leg restraints. Additionally, the oxygen/communication lead is attached to the survival kit. If the crewmember is wearing an anti-G suit, a hose will be attached to an outlet on the LH console.

- a. To remove oxygen mask: Pull down release tabs on either side of crewmember helmet mask.
- b. To disconnect the oxygen/communication lead at the survival kit on the left aft side of seat: Grasp knurled fitting on hose and pull up to disconnect.
- c. To disconnect the anti-G suit: Pull anti-G suit hose from left seat connection.
- d. To disconnect leg restraints: Release leg garters by applying pressure to tabs on both sides of each quick disconnect.
- e. To disconnect restraints: Release two lap belt, then two shoulder harness koch fittings.

2. EMERGENCY RELEASE

- a. Press thumb button on forward part of manual override handle, located on right side of seat, and rotate handle aft. This positions the safe/armed handle UP in safe position and releases lower leg restraint lines. However, the parachute and survival kit will remain attached to crewmember.

